

REMARKS

Claims 14 to 23 and 27 are now pending in the present application. Claim 18 has been amended. No new matter has been added.

Applicants respectfully request reconsideration of the present application in view of this response.

35 U.S.C. § 112, second paragraph

Claim 18 was rejected under 35 U.S.C. § 112, second paragraph, for recitation of “short.” Applicants still believe that “short” is a proper definite term and notes that the Specification supports this and describes “short” in an exemplary embodiment of the present invention as follows:

The signaling and control information is preferably transmitted at regular time intervals T for a duration of T_s . In this context, it is advantageous that T be a multiple of the characteristic clock pulse duration of the useful information. This means that the transmitting clock pulse of the useful signal is used to synchronize the time-division multiplex method for the overhead channel, in that the clock pulse information from the useful signal is used within the WDM network to synchronize the overhead channel. For this purpose, the time-division multiplex method is dynamically adapted to the respective transmitting clock pulse of the useful signal. *Synchronization to the useful signal can take place in a learning phase in which a characteristic signal is transmitted at very short intervals. Following synchronization, the time interval of the characteristic signal is gradually increased in one or more steps.*

To minimize the impact on the basic channel as a result of its brief use for transmitting the overhead information, a longest possible time interval should be selected between the individual time slots for the overhead information. *To maintain the synchronism between transmitter and receiver, the clock pulse deviation during the transmission pauses of the overhead channel must be kept as small as possible. The technical implementation is significantly simplified if the clock pulse information of the useful signal is used to synchronize the oscillators located at the transmitters and receivers of the overhead information.* This is possible because, in the case of the optical carrier modulations used today, the transmitting clock pulse of the useful signal is within a frequency range to be clearly defined. Therefore, the overhead signal can be adapted to the timing of the useful signal with minimal expenditure for circuit engineering. (page 5)

The specification indicates that one of ordinary skill in the art should be capable of transmitting signaling and control information for multiples of a characteristic clock pulse duration – and the method is dynamically adapted to the transmitting clock pulse... so the characteristic signal is transmitted at brief intervals which are increased. While Applicants believe that “short” is a proper, well-understood term to one of ordinary skill in the art,

Applicants have rewritten “short” to recite “brief” given that “brief” might be more descriptive. No new matter has been added. If such amendment is not acceptable to the Examiner, or if the Examiner now agrees that “short” would be definite, Applicants kindly invite the Examiner for possible language amendment guidance. Accordingly, Applicants respectfully submit that claim 18 as amended is now allowable; and withdrawal of the rejection of claim 18 is respectfully requested.

35 U.S.C. § 103(a) – Widmer reference, Nakamura reference

Claims 14 to 18 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 4,151,373 to Widmer et al. (“Widmer reference”) in view of U.S. Patent No. 5,144,466 to Nakamura (“Nakamura reference”).

As discussed in Applicants’ last response, the Widmer reference refers to a system for inserting extra-information bits into a bit sequence to be transmitted over a transmission channel and for suppressing such bits from the transmitted bit sequence, an inserter converting an input bit sequence which it receives at a first repetition frequency into a second repetition frequency, and a suppressor restoring the original input bit sequence which it receives from the transmitter at the second repetition frequency. Abstract.

Further, the Nakamura reference refers to an optical fiber communication system for an optical network for realizing a network which can correspond to multimedia by using optical wavelength multiplexing using at least three light wavelengths, where one of the three wavelengths is allotted to a packet switched communication of burst signals, another is allotted to a time division multiplexing line switched communication of continuous signals, and the remainder is allotted to a line switched communication of high speed continuous signals. Cols. 2-4.

Neither the Widmer reference nor the Nakamura reference teach or describe at least the features of performing a generation or an analysis of the signaling and control information in one of the network terminator and in a further network element; performing one of the steps of feeding the signaling and control information into the wavelength-division multiplex network, and removing the signaling and control information from the wavelength-division multiplex network; and using a time-division multiplex operation to transmit the signaling and control information with the defined fundamental wavelength via the same components of the wavelength-division multiplex network as the corresponding useful information, wherein the signaling and control information is capable of being modulated independently of

the useful information. In support of its allegations, the Office Action suggests that the implementation of the signaling and control information would have been obvious to a person of ordinary skill in the art. Applicants respectfully disagree and request evidence of such. The Federal Circuit in the case of In re Kotzab has made plain that even if a claim concerns a “technologically simple concept” -- which is not even the case here, there still must be some finding as to the “specific understanding or principle within the knowledge of a skilled artisan” that would motivate a person having no knowledge of the claimed subject matter to “make the combination in the manner claimed”, stating that:

In this case, the Examiner and the Board fell into the hindsight trap. The idea of a single sensor controlling multiple valves, as opposed to multiple sensors controlling multiple valves, is a technologically simple concept. **With this simple concept in mind, the Patent and Trademark Office found prior art statements that in the abstract appeared to suggest the claimed limitation. But, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the manner claimed.** In light of our holding of the absence of a motivation to combine the teachings in Evans, we conclude that the Board did not make out a proper *prima facie* case of obviousness in rejecting [the] claims . . . under 35 U.S.C. Section 103(a) over Evans.

(See In re Kotzab, 55 U.S.P.Q.2d 1313, 1318 (Federal Circuit 2000) (citations omitted, italics in original, emphasis added)). Thus, a reference by the Nakamura reference in its “Related Arts” section reciting “information to be transmitted has been needed to have a large capacity and to correspond to a high speed transmission” as a reason to use an optical fiber network (Col. 1, lines 23 et seq.) is respectfully not sufficient to read into the references at least one feature in hindsight.

In addition, it would be also improper to later suggest that the claimed features are inherent in an optical network. To suggest such, there will need to be provided a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily* flows from the teachings of the applied art.” (See M.P.E.P. § 2112; emphasis in original; and see Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int’f. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic.

Accordingly, Applicants respectfully submit that claim 14 is allowable over the

references; and withdrawal of the rejection of claim 14 and its dependent claims 15 to 18 (which incorporate all of the features of claim 14) under 35 U.S.C. § 103(a) is respectfully requested.

35 U.S.C. § 103(a) – Widmer reference, Nakamura reference, Bingham reference

Claims 19 to 23 were rejected under 35 U.S.C. § 103(a) as unpatentable over the Widmer reference in view of the Nakamura reference and further in view of U.S. Patent No. 5,644,573 to Bingham et al. (“Bingham reference”).

Claims 19 to 23 depend from claim 14 and are therefore allowable over the Widmer reference in view of the Nakamura reference for at least the same reasons as claim 14. The Bingham reference does not cure the deficiencies of the Widmer and Nakamura references when in combination (although it is believed that all the references are not properly combinable). Specifically, the Bingham reference refers to a method for coordinating communications between a plurality of remote units and a central unit to facilitate communications using a frame based discrete multi-tone (DMT) transmission scheme, where synchronized quiet times are provided periodically in the upstream communications.

Abstract. The Bingham reference does not appear to teach or describe at least the features of performing a generation or an analysis of the signaling and control information in one of the network terminator and in a further network element; performing one of the steps of feeding the signaling and control information into the wavelength-division multiplex network, and removing the signaling and control information from the wavelength-division multiplex network; and using a time-division multiplex operation to transmit the signaling and control information with the defined fundamental wavelength via the same components of the wavelength-division multiplex network as the corresponding useful information, wherein the signaling and control information is capable of being modulated independently of the useful information, as in claim 14 (and thus, claims 19 to 23) as discussed above.

Accordingly, Applicants respectfully submit that claims 19 to 23 are allowable over the references; and withdrawal of the rejection of claims 19 to 23 under 35 U.S.C. § 103(a) is respectfully requested.

35 U.S.C. § 103(a) – Widmer reference, Nakamura reference, Bingham reference, Choquet reference

Claim 27 was rejected under 35 U.S.C. § 103(a) as unpatentable over the Widmer reference in view of the Nakamura reference and further in view of the Bingham reference

and U.S. Patent No. 4,330,858 to Choquet ("Choquet reference").

Claim 27 depends from claim 14 and is therefore allowable over the Widmer reference in view of the Nakamura reference and further in view of the Bingham reference for at least the same reasons as claim 14 (see discussion re claims 19 to 23). The Choquet reference does not cure the deficiencies of the Widmer, Nakamura and Bingham references when in combination (although it is believed that all the references are not properly combinable). Specifically, the Choquet reference refers to a time domain supervisory channel for data terminal equipment which uses a common channel to carry both normal and supervisory messages, the supervisory messages being inserted into the message stream during intervals between normal messages via setting 1 enabling data to pass from the normal message generator directly to the channel, setting 2 enabling data to pass indirectly from the normal message generator through a delay line to the channel, and setting 3 enabling data to pass from the supervisory message generator to the channel. Abstract. The Choquet reference does not appear to teach or describe at least the features of performing a generation or an analysis of the signaling and control information in one of the network terminator and in a further network element; performing one of the steps of feeding the signaling and control information into the wavelength-division multiplex network, and removing the signaling and control information from the wavelength-division multiplex network; and using a time-division multiplex operation to transmit the signaling and control information with the defined fundamental wavelength via the same components of the wavelength-division multiplex network as the corresponding useful information, wherein the signaling and control information is capable of being modulated independently of the useful information, as in claim 27, as discussed above.

Accordingly, Applicants respectfully submit that claim 27 is allowable over the references; and withdrawal of the rejection of claim 27 under 35 U.S.C. § 103(a) is respectfully requested.

In summary, it is respectfully submitted that all of claims 14 to 23 and 27 of the present application are allowable for the foregoing reasons.

CONCLUSION

In view of all of the above, it is believed that the rejection of claims 14 to 23 and 27 under 35 U.S.C. §§ 112, 103(a) have been overcome. Accordingly, it is respectfully submitted that all claims 14 to 23 and 27 are allowable. It is therefore respectfully requested

that the rejections be reconsidered and withdrawn, and that the present application issue as early as possible.

If it would further allowance of the present application, the Examiner is invited to contact the undersigned at the contact information given below.

Respectfully submitted,

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Dated: April 29, 2004

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